Bäumr-AG®

Scroll Saw - SS16

User Manual

[Revision 2.0 May 2019]

READ THIS MANUAL CAREFULLY BEFORE USE – FAILURE TO DO SO MAY RESULT IN INJURY, PROPERTY DAMAGE AND MAY VOID WARRANTY. • KEEP THIS MANUAL FOR FUTURE REFERENCE. • Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.

Safety

Safety messages are designed to alert you to possible dangers or hazards that could cause death, injury or equipment or property damage if not understood or followed. Safety messages have the following symbols:

 You WILL be KILLED or SERIOUSLY INJURED if you do not follow instructions.	 You CAN be KILLED or SERIOUSLY INJURED if you do not follow instructions.	 You CAN be INJURED if you do not follow instructions or equipment damage may occur.

It is important that you read and understand the instruction manual before use and keep the manual in a safe place for future reference. Safety information presented here is generic in nature – some advice may not be applicable to every piece of equipment.

All safety precautions must be observed to reduce the risk of personal injury when operating the equipment.

The term “equipment" refers to your product, be it electrical mains, battery or petrol engine powered.

IMPORTANT – Handle the equipment safely and carefully.

BEFORE USE - If you are not familiar with the safe operation/handling of this equipment, or are in any way unsure of any aspect of suitability or correct use it for your application, you should complete training conducted by a person or organization qualified in safe use and operation of this equipment, including fuel/electrical handling and safety.

WARNINGS

- Read all safety warnings and all instructions. Failure to follow warnings and instructions may result in electric shock, fire and/or serious injury.
- Never run a combustion engine in confined areas.
- Do not operate the equipment in flammable or explosive environments, such as in the presence of flammable liquids, gases or dust. Engine and equipment may create sparks or heat that may ignite vapours, dust etc
- Keep clear of moving parts.
- This equipment may be a potential source of electric shock if misused.
- Do not operate the equipment if it is damaged, malfunctioning or is in an excessively worn state.
- Do not allow others to use the equipment unless they have read this manual and are adequately trained.
- When using the equipment, basic safety precautions detailed here must always be followed to reduce the risk of fire, electric shock, personal injury and material damage.
- When wiring electrically powered equipment, follow all electrical and safety codes.
- Ensure all power sources conform to equipment voltage requirements and are disconnected before connecting equipment.

General Work Area Safety

Work areas should be clean and well it.

Do not operate the equipment if bystanders, animals etc are within operating range of the equipment or the general work area.

Personal Safety

Keep packaging away from children - risk of suffocation! Operators must use the equipment correctly. When using the equipment, consider conditions and pay due care to persons and property.

Prevent unintentional starting of the equipment - ensure equipment and power source switches are in the OFF position before connecting or moving the equipment. Do not carry equipment with hands/fingers touching any controls. Remove any tools or other items that are not a part of the equipment from it before starting or switching on.

Stay alert and use common sense when operating equipment. Do not overreach. Keep proper footing and balance at all times. Do not use equipment when tired or under the influence of drugs, alcohol or medication. This equipment is not intended for use by persons with reduced physical, sensory or mental capabilities.

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. Always wear eye protection. Protective equipment such as respirators, non-skid safety shoes, hard hat, hearing protection etc should be used for appropriate conditions. Other people nearby should also wear appropriate personal protective equipment. Do not wear loose clothing or jewellery, which can be caught in moving parts. Keep hair and clothing away from the equipment.

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

General Equipment Use and Care

Do not force the equipment. Use the correct equipment for your application. The correct equipment will perform better and be safer within its design parameters. Do not use the equipment if the ON/OFF switch malfunctions – any equipment that cannot be controlled with the ON/OFF switch is dangerous and must be repaired.

Use the equipment and accessories etc. in accordance with these instructions, taking into account working conditions and the work to be performed. Using the equipment for operations different from those intended could result in hazardous situations.

Before use, inspect the equipment for misalignment or binding of moving parts, loose components, damage or any other condition that may affect its operation. If damaged, have the equipment repaired by an authorized service centre or technician before use.

Always keep the equipment and accessories (cutting tools, nozzles, bits etc) properly maintained. Keep the equipment, controls and handles dry and free from dirt, oil and grease.

Store the equipment out of reach of children or untrained persons. To avoid burns or fire hazards, let the equipment cool completely before transporting or storing. Never place the equipment in places where there are flammable materials, combustible gases or combustible liquids etc.

The equipment is not weatherproof, and should not be stored in direct sunlight, at high ambient temperatures or locations that are damp or very humid.

Product Use and Care

- The machine is for domestic use only.
- Not for outdoor use.
- Risk of injury when operating the machine. Always use caution when handling the work-piece.
- Health risks may be present from the inhalation of sawdust. Wear a respirator. A dust extraction system is recommended.
- Risk of injury when handling saw blades. Use caution and wear protective gloves.
- Ensure that the blade is correctly installed and adjusted before using the machine.
- Do NOT attempt to cut materials that are not suitable to the cutting speed of the machine and blade type. For example, hard metals.
- Know the condition of the machine. If any part is missing, damaged, or does not operate properly, replace the component before use.
- Properly protect your body including your eyes, hands, face, and ears.
- Do not cut a work piece too small to be held safely.

Product Use and Care

- Use supplied or recommended accessories only. Follow the instructions supplied with the accessory. The use of improper accessories may cause risk of injury and void any warranty.
- Do not reach under the scroll saw table when the motor is running.
- Switch the machine OFF and disconnect it from the electrical supply before changing the blade, performing maintenance or making adjustments.
- Make sure the switch is OFF before plugging in the power cord to an electric outlet.
- Carry the machine by its base. Do not move it by pulling on the power cord.
- Secure the machine to a firm and level surface with adequate space around it for working.
- Before moving the machine, disconnect the power cable from the electrical supply.
- Always hold the work-piece firmly against the table.
- Always feed the work-piece into the machine at the rate the saw will cut.
- Do not start the machine with the work-piece touching the blade.
- Use caution when cutting round or irregularly shaped work-pieces. Round items may roll and irregularly shaped work pieces can pinch the blade.
- Obtain advice from a qualified person if you're not thoroughly familiar with the operation of scroll saws.
- Make sure the table is locked into position before starting the machine.
- Do not use dull or bent blades.
- When cutting large work-pieces, make sure the material is supported at table height.
- If the blade jams, switch the machine OFF and disconnect it from the electrical supply. Jams are usually caused by sawdust filling the cut. Wedge open the work-piece just enough to back out the blade, then clear the cut.

Electrical Information

- **Electrocution / shock hazard** - The machine MUST be connected to a properly grounded electrical socket. Check with a licensed electrician or service personnel if you do not completely understand the grounding instructions or whether the tool is properly grounded.
- Do NOT use the equipment if the electrical supply cable or plug is damaged – have the equipment repaired.
- Extension cords MUST be grounded 3-wire types. For lengths up to 25m, the wires must have a cross section of 1.5mm^2. Extension cords over 25m long must have a minimum cross section of 2.5mm^2.
- Before connecting the machine to the electrical supply, ensure the electrical supply conforms to the electrical requirements of the machine as stated on the nameplate.

General Service Information

- Have the equipment serviced or repaired at authorized service centres by qualified personnel only.
- Replacement parts must be original equipment manufacturer (OEM) to help ensure that equipment safety is maintained.
- Do not attempt any maintenance or repair work not described in this instruction manual.
- After use, the equipment and components may still be hot – allow the equipment to cool and disconnect spark plugs and/or electrical power sources and/or batteries from it before making adjustments, changing accessories or performing repair or maintenance.
- Do not make adjustments while the equipment is running.
- Perform all service related activities under suitable conditions, such as a workshop etc.
- Replace any worn, damaged or missing warning labels immediately.
- Do not clean equipment with solvents, flammable liquids or harsh abrasives.

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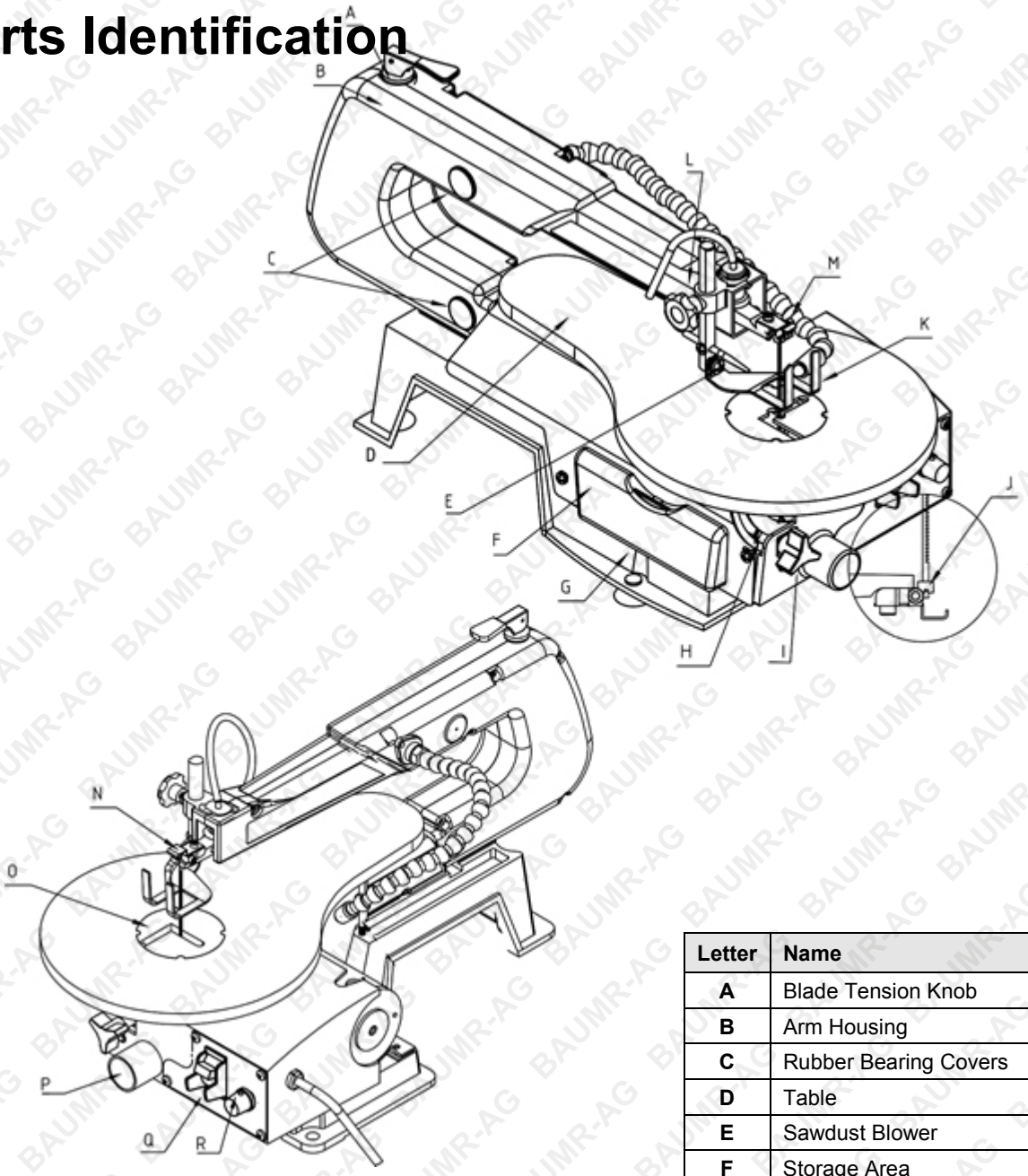
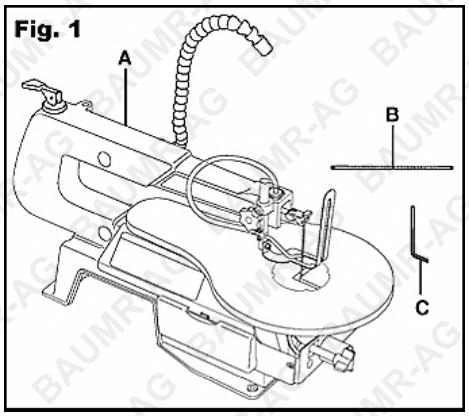
Parts Identification



Letter	Name
A	Blade Tension Knob
B	Arm Housing
C	Rubber Bearing Covers
D	Table
E	Sawdust Blower
F	Storage Area
G	Base
H	Bevel Scale and Pointer
I	Table/Bevel Lock Knob
J	Lower Blade Holder
K	Blade Guard Foot
L	Blade Guard Foot Lock Knob
M	LED Light
N	Upper Blade Holder
O	Table Insert
P	Sawdust Collection Port
Q	ON/OFF Switch
R	Speed Control Knob

Assembly and Set-Up

Do not attempt to modify the product or use accessories not supplied or recommended for use with this tool. Any such alteration or modification may result in hazards leading to possible serious personal injury and will void any warranty. • Do not connect the machine to an electrical supply until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury. • Do not lift the saw by the arm that holds the blade. The saw will be damaged. • To avoid injury from accidental starting of the machine, switch the machine OFF and disconnect it from the power supply before making any adjustments.

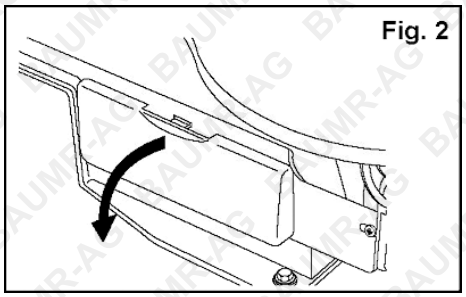


INCLUDES (Fig. 1)

A - Scroll saw

B - Extra pin blade

C - Wrench



STORAGE AREA (Fig. 2)

A convenient storage location for Allen hex key and extra blade is located beneath the table.

Mounting the Machine to a Workbench

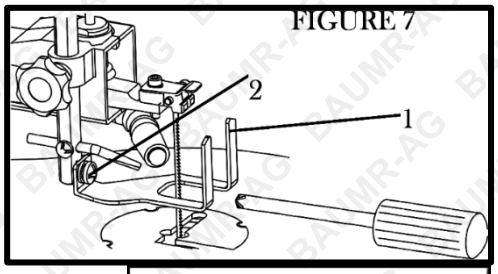
If the machine is to be used in a permanent location, it is recommended you secure it to a workbench or other stable surface using suitable fasteners (not supplied). Use the base of the machine to mark and pre-drill the mounting holes. To reduce noise and vibration, install a soft foam pad (not supplied) between the machine base and the workbench.

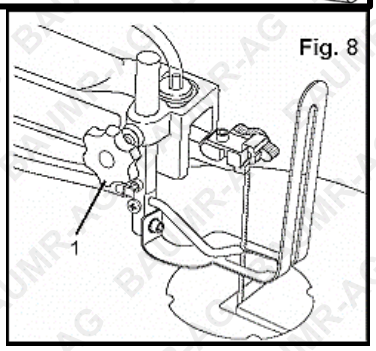
- Secure the saw in a position where people cannot stand, sit, or walk behind it. Debris thrown from the saw could injure people standing, sitting, or walking behind it.
- Secure the saw on a firm, level surface where the saw cannot rock. Make sure there is adequate room for handling and properly supporting the work-piece.

Blade Guard Foot Adjustment

When cutting at angles, the blade guard foot should be adjusted so it is parallel to the table and rests flat above the work-piece (Fig. 7 and 8).

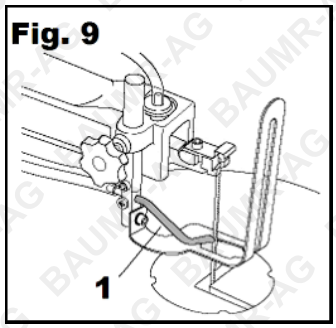
1. To adjust, loosen the screw (**2**), tilt the foot (**1**) so it is parallel to the table, and tighten the screw.
2. Loosen the height adjustment knob (**3**) to raise or lower the foot until it just rests on top of the work piece. Tighten the knob.





Dust Blower Adjustment

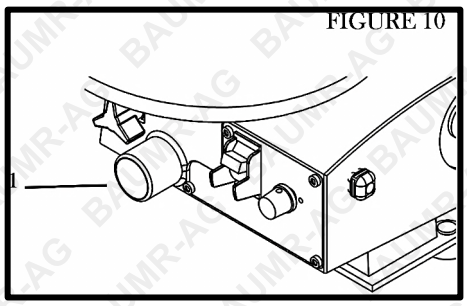
For best results, the dust blower tube (1) should be adjusted to direct air at both the blade and the work-piece (Fig. 9).

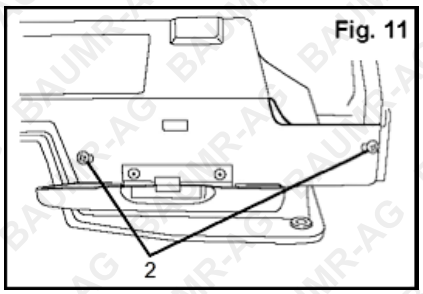


Sawdust Collection Port

(Fig. 10 and 11)

This scroll saw allows a hose or vacuum accessory (not supplied) to be connected to the dust port (**1**). If excessive sawdust build up occurs inside the base, use a vacuum cleaner or manually remove sawdust by removing the screws (**2**) and metal plate on the left side of the saw. Re-attach the metal plate and screws before starting the saw.

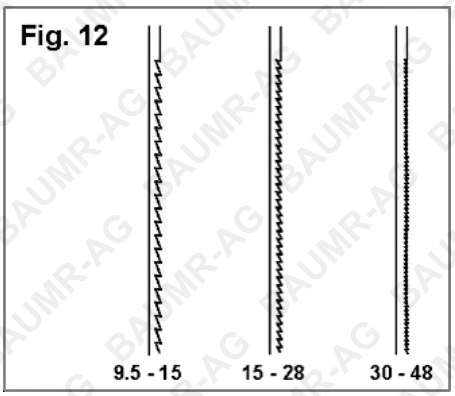




Blade Selection

This machine accepts 5" length pin-end and plain blades, with a wide variety of blade thicknesses and widths. The type of material and intricacies of cutting operations will determine the most suitable number of teeth per inch ("tpi"). Always select the narrowest blades for intricate curve cutting and the widest blades for straight and large curve cutting operations. The following table represents suggestions for various materials. Use this table as an example, but with practice, personal preference will be the best selection method (Fig. 12).

When choosing a blade, use very fine, narrow blades to scroll cut in thin wood 6mm (1/4") thick or less. Use wider blades for thicker materials but this will reduce the ability to cut tight curves. A smaller blade width can cut circles with smaller diameters.



Thinner blades will have a greater tendency for deflection, especially when cutting at angles not perpendicular to the table.

Teeth/Inch (TPI)	Width	Thickness	Strokes/Min (SPM)	Material
10 to 15	0.11"	0.018"	500 to 1200	Medium turns on ¼" to 1-3/4" wood, soft metal, hardwood
15 to 28	0.055" to 0.11"	0.01" to 0.018"	800 to 1600	Small turns on 1/8" to 1-1/2" wood, soft metal, hardwood
30 to 48	0.024" to 0.041"	0.012" to 0.019"	Varies	Non-ferrous metals/hardwoods using very slow speeds

Operation

Risk of injury when operating the machine. Always use caution when handling the work-piece. • Risk of injury when handling saw blades. Use caution and wear protective gloves. • Ensure that the blade is correctly installed and adjusted before using the machine. • Do NOT attempt to cut materials that are not suitable to the cutting speed of the machine and blade type. For example, hard metals. • Know the condition of the machine. If any part is missing, damaged, or does not operate properly, replace the component before use. • Properly protect your body including your eyes, hands, face, and ears. • Do not cut a work piece too small to be held safely. • Use supplied or recommended accessories only. Follow the instructions supplied with the accessory. The use of improper accessories may cause risk of injury and void any warranty. • Do not reach under the scroll saw table when the motor is running. • Switch the machine OFF and disconnect it from the electrical supply before changing the blade, performing maintenance or making adjustments. • Make sure the switch is OFF before plugging in the power cord to an electric outlet. • Always hold the work-piece firmly against the table. • Always feed the work-piece into the machine at the rate the saw will cut. • Do not start the machine with the work-piece touching the blade. • Use caution when cutting round or irregularly shaped work-pieces. Round items may roll and irregularly shaped work pieces can pinch the blade. • Make sure the table is locked into position before starting the machine. • Do not use dull or bent blades. • When cutting large work-pieces, make sure the material is supported at table height. • If the blade jams, switch the machine OFF and disconnect it from the electrical supply. Jams are usually caused by sawdust filling the cut. Wedge open the work-piece just enough to back out the blade, then clear the cut.

General Operational Recommendations

A scroll saw is basically a curve-cutting machine. It can also be used for straight cutting and bevelling or angle cutting operations. Read and understand the following before attempting to use the saw.

- There is a learning curve for each person using this saw. During that period, it is expected that some blades will break until you learn how to use the saw.
- When feeding the work-piece into the machine, do so at a rate where cutting is efficient and there is not unnecessary force on the blade that can cause deflection and breakage.
- The blade teeth cut on the down stroke ONLY.
- Best results are achieved when cutting materials under 25mm (1") thick. When cutting material thicker than 25mm, feed the work-piece very slowly into the blade and take extra care not to bend or twist the blade while cutting.
- Teeth on scroll saw blades wear out and the blades must be replaced for best cutting results. Blades generally stay sharp for 1/2 hour to 2 hours of cutting.
- To get accurate cuts, be prepared to compensate for the blade tendency to follow the wood grain.
- This scroll saw is primarily designed to cut wood or wood products. For cutting precious and nonferrous metals, the speed control must be set to very slow speeds.
- When choosing a blade, use very fine, narrow blades to cut materials 6mm (1/4") thick or less. Use wider blades for thicker materials. Wider blades, however, reduce the ability to cut tight curves.
- Blades wear down faster when cutting plywood or abrasive particle board. Angle cutting in hardwoods also wears blades down faster.

Power Switch and Speed Control

To avoid injury from accidental start-ups, always switch the machine OFF and disconnect it from the electrical supply before moving it, replacing the blade, or making adjustments. • Always wait for the saw to come to a complete stop before restarting.

To switch the machine ON:

- Press the green ON ("I) button.

To switch the machine OFF:

- Press the red OFF ("O") button.

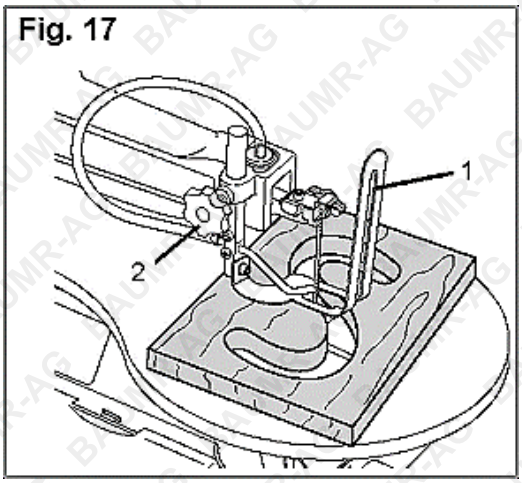
To adjust speed (strokes per minute / SPM):

Speed is adjustable between 400 and 1600 SPM. Rotate the speed control right (clockwise) to increase speed; rotate left (anti-clockwise) to reduce speed.

Freehand Cutting

(Fig. 17)

Fig. 17

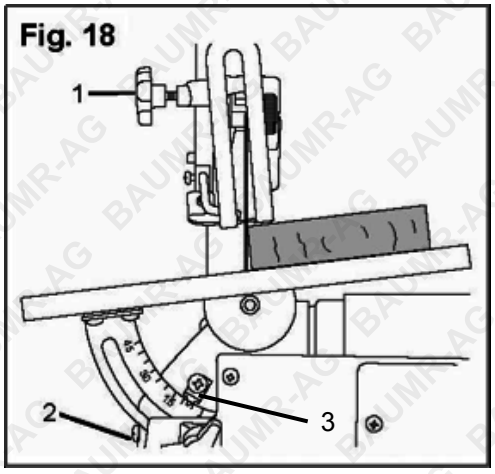


1. Raise the blade guard foot (**1**) by loosening the height adjustment knob (**2**).
2. Position the work-piece against the blade and place the blade guard foot against the top surface of the work-piece.
3. Secure the blade guard foot (**1**) by tightening the height adjustment knob (**2**).
4. Remove the work-piece from the blade prior to switching the machine ON.
5. Slowly feed the work piece into the blade by guiding and pressing the work piece down against the table.
6. When the cut is complete, move the trailing edge of the work piece beyond the blade guard foot.

Angle Cutting (Bevelling)

(Fig. 18)

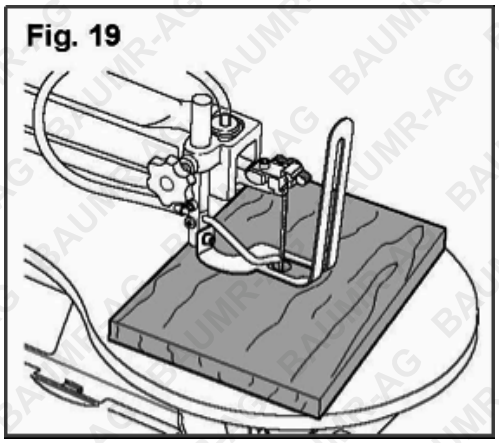
Fig. 18



1. Move the blade guard foot to the highest position by loosening the height adjustment knob (**1**). Re-tighten the knob.
2. Tilt the table to the desired angle by loosening the table bevel lock knob (**2**). Move the table to the required angle using the degree scale and the pointer (**3**).
3. Tighten the table bevel lock knob (**2**).
4. Loosen the blade guard screw, and tilt the blade guard to the same angle as the table. Re-tighten the blade guard screw.
5. Position the work piece on the right side of the blade. Lower the blade guard foot against the surface by loosening the height adjustment knob. Re-tighten the knob.
6. Slowly feed the work piece into the blade by guiding and pressing the work piece down against the table.
7. When the cut is complete, move the trailing edge of the work piece beyond the blade guard foot.

Interior Cutting

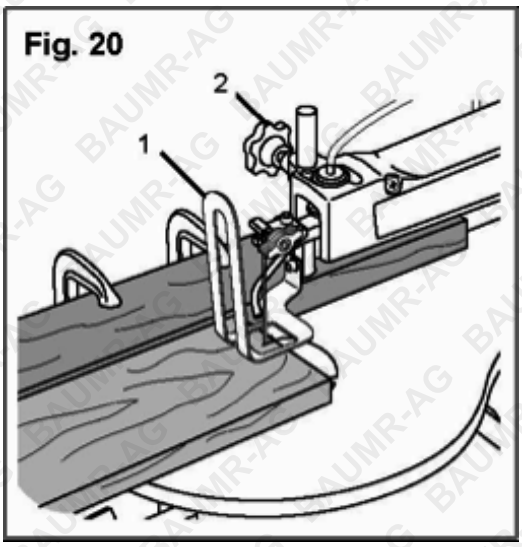
(Fig. 19)



1. Drill a 6mm (1/4") or larger hole in the work-piece.
2. Remove the blade from the machine.
3. Place the work-piece on the table, with the hole in it over the access hole in the table.
4. Install a blade through the hole in the work-piece.
5. Position the work-piece against the blade and place the blade guard foot against the top surface of the work-piece.
6. Secure the blade guard foot by tightening the height adjustment knob.
7. Remove the work-piece from the blade prior to switching the machine ON.
8. Slowly feed the work-piece into the blade by guiding and pressing the work-piece down against the table.
9. When the cut is complete, switch the machine OFF and disconnect it from the electrical supply, then remove the blade and work-piece.

Rip or Straight Line Cutting

(Fig. 20)



1. Raise the blade guard foot (**1**) by loosening the height adjustment knob (**2**).
2. Measuring from the side of the blade, place a straight edge on the table at the required distance and parallel to the blade.
3. Clamp the straight edge to the table.
4. Recheck your measurements and make sure the straight edge is secure.
5. Position the work-piece against the blade and place the blade guard foot against the top surface of the work piece.
6. Secure the blade guard foot in place by tightening the height adjustment knob.
7. Remove the work-piece from the blade prior to turning the scroll saw ON.
8. Position the work piece against the straight edge prior to touching the leading edge of the work-piece against the blade.
9. Slowly feed the work-piece into the blade, guiding the work-piece against the straight edge and pressing the work piece down against the table.
10. When the cut is complete, move the trailing edge of the work-piece beyond the blade guard foot.

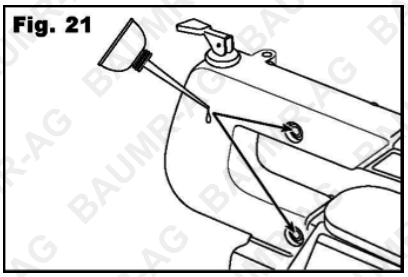
Maintenance

Ensure the machine is switched OFF and disconnected from the electrical supply before performing any maintenance tasks. • All protection and safety devices must be immediately re-installed once the maintenance work is completed. • When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage and may void any warranty. • Some maintenance activities described may be beyond the scope of some users. For procedures that you are not comfortable with or have the tools or experience for, have the unit serviced by a service centre or qualified technician. • Do not allow chemicals, solvents or petroleum based products come into contact with plastic parts as this may damage and weaken them, creating a hazard.

To keep the machine performing at optimal efficiency, regular checks and maintenance is required. Proper care and maintenance ensures best performance and longest service life.

- Clean the machine after each use with a brush and cleaning cloth to help prevent the build-up of sawdust and particles. Do not use chemicals, solvents or abrasive materials.
- To ensure that the work-piece moves smoothly across the table, periodically apply a coat of paste wax (not supplied) to the surface of the table.

Lubrication



Lubricate the arm bearings after every 50 hours of use (Fig. 21).

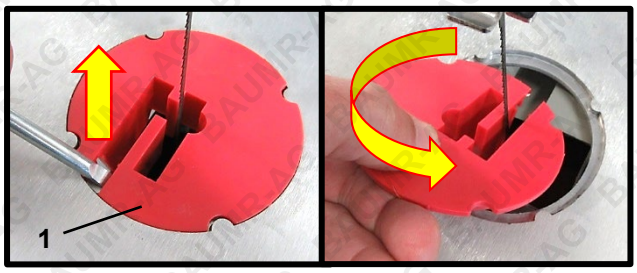
1. Turn the saw on its side and remove the 2 bearing covers.
2. Squirt a generous amount of SAE 20 oil (lightweight motor oil, not supplied) around the shaft and bearing and let the oil soak in overnight.
3. Repeat the above procedure for the opposite side of the saw.

Blade Removal and Installation

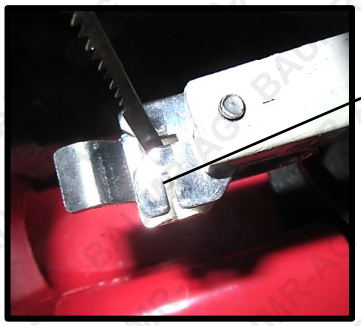
This saw uses pin-end and plain blades. Pin-end blades are faster to install and may provide faster cutting on a variety of materials, however, are thicker than plain types. The image shows a pin-end blade on the right and a plain type on the left.

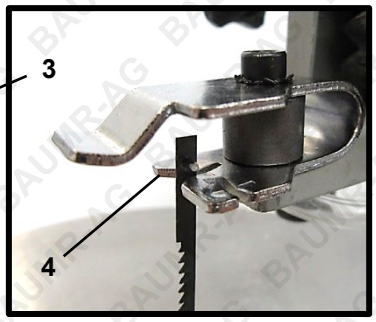
Always install blades with the teeth pointing downward and towards the front of the machine. • Some blades may stretch slightly when first used – if this occurs, increase tension on the blade. • Do not bend blades when installing. • Always set proper blade tension. • Use the correct blade for the task (see instructions on replacement blade packaging for proper use).

Pin-End Blades

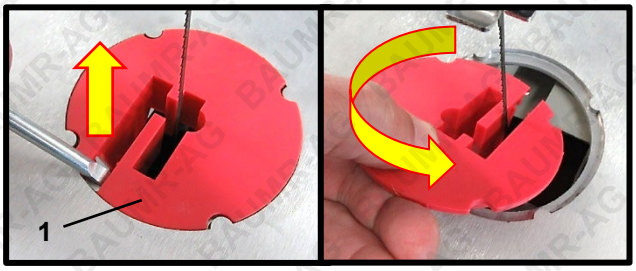


1. Remove the table insert (**1**) – carefully pry up on the insert to lift it from the table, then rotate and pull it from the machine.
2. Loosen the tension on the blade by rotating the blade tension knob (**2**) left (anti-clockwise) until no tension remains on the blade.
3. Unhook the blade pins from the lower slotted blade holder (**3**) and upper slotted blade holder (**4**) and remove the blade from the machine.
4. Hook the bottom pin of the replacement blade under the lower slotted blade holder (**3**), and the top pin over the upper slotted blade holder (**4**).
5. Increase tension on the blade by rotating the blade tension knob (**2**) right (clockwise) until the blade is straight and "twangs" if you pluck it.
6. Re-install the table insert (**1**) and ensure that it is sitting flush with the table surface.

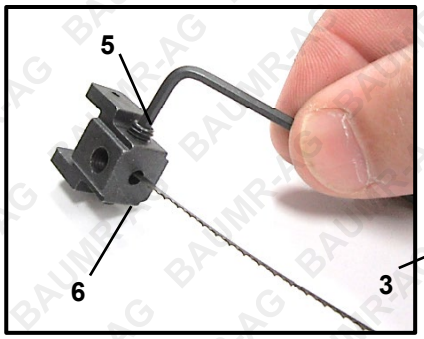


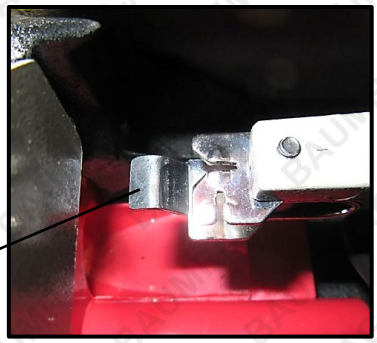


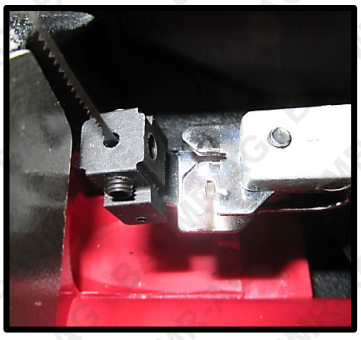
Plain Blades

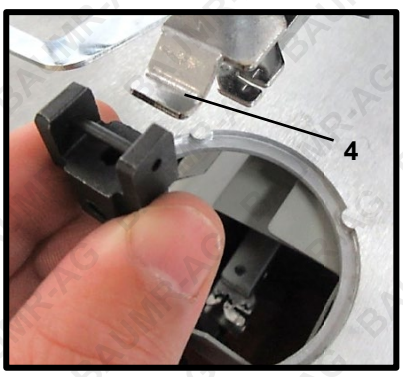


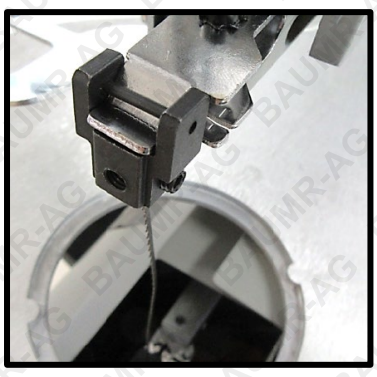
1. Remove the table insert (**1**) – carefully pry up on the insert to lift it from the table, then rotate and pull it from the machine.
2. Loosen the tension on the blade by rotating the blade tension knob (**2**) left (anti-clockwise) until no tension remains on the blade.
3. Unhook the blade holders (**6**) from the lower flat blade holder (**3**) and upper flat blade holder (**4**) and remove the blade from the machine.
4. Loosen the grub screw (**5**) securing the blade to the blade holders (**6**), and remove the blade.
5. Place the ends of the replacement blade into the blade holders (**6**) and secure the blade by tightening the grub screws (**5**). Ensure that the blade is held centrally and that the blade ends do not protrude from the holders, as per (**7**).
6. Hook the bottom blade holder around the lower flat blade holder (**3**), and the top blade holder around the upper flat blade holder (**4**).
7. Increase tension on the blade by rotating the blade tension knob (**2**) right (clockwise) until the blade is straight and "twangs" if you pluck it.
8. Re-install the table insert (**1**) and ensure that it is sitting flush with the table surface.

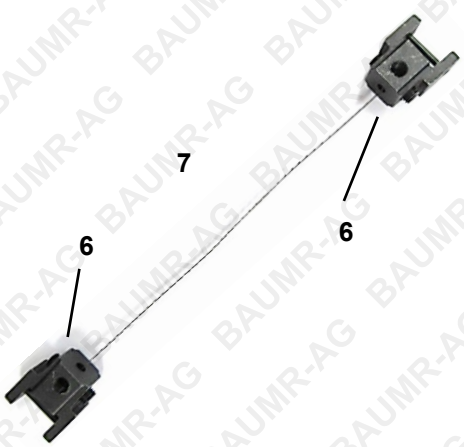












Specifications

Electrical Requirements	240VAC / 50Hz, 0.8A
Speed	550 to 1600 SPM
Throat Depth	406mm (16")
Blade	5" pin-end and plain
Blade Stroke	14mm (9/16")
Cutting Capacity	50mm (2") at 90°
Table Tilt	0° to 45°

Some experts believe that the incorrect or prolonged use of almost any product may cause serious injury or death. To help reduce your risk of serious injury or death, refer to the information below. For more information, see www.datastreamserver.com/safety

- Consult all documentation, packaging and product labelling before use. Note that some products feature documentation available online. It is recommended to print and retain the documentation.
- Before each use, check the product for loose/broken/damaged/missing parts, wear or leaks (if applicable). Never use a product with loose/broken/damaged/missing parts, wear or leaks.
- Products must be inspected and serviced (if applicable) by a qualified technician every 6 months. This is based on average residential use by persons of average size and strength, and on a property of average metropolitan size. Use beyond these recommendations may require more frequent inspections/servicing.
- Ensure that all users of the product have completed a suitable industry recognised training course before being allowed access to the product.
- The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or description of application. Be sure to attain third-party approval from a qualified specialist for your application before use, regardless of any assurances from the retailer or its representatives.
- This product is not intended for use where fail-safe operation is required. As with any product (for example, automobile, computer, toaster), there is the possibility of technical issues that may require the repair or replacement of parts, or the product itself. If the possibility of such failure and the associated time it may take to rectify could in any way inconvenience the user, business or employee, or financially affect the user, business or employee, then the product is not suitable for your requirements. This product is not intended for use where incorrect operation or a failure of any kind, including but not limited to, a condition requiring product return, replacement, parts replacement or service by a technician may cause financial loss, loss of employee time or an inconvenience requiring compensation.
- If this product has been purchased in error when considering the information presented here, contact the retailer directly for details of their returns policy, if required.